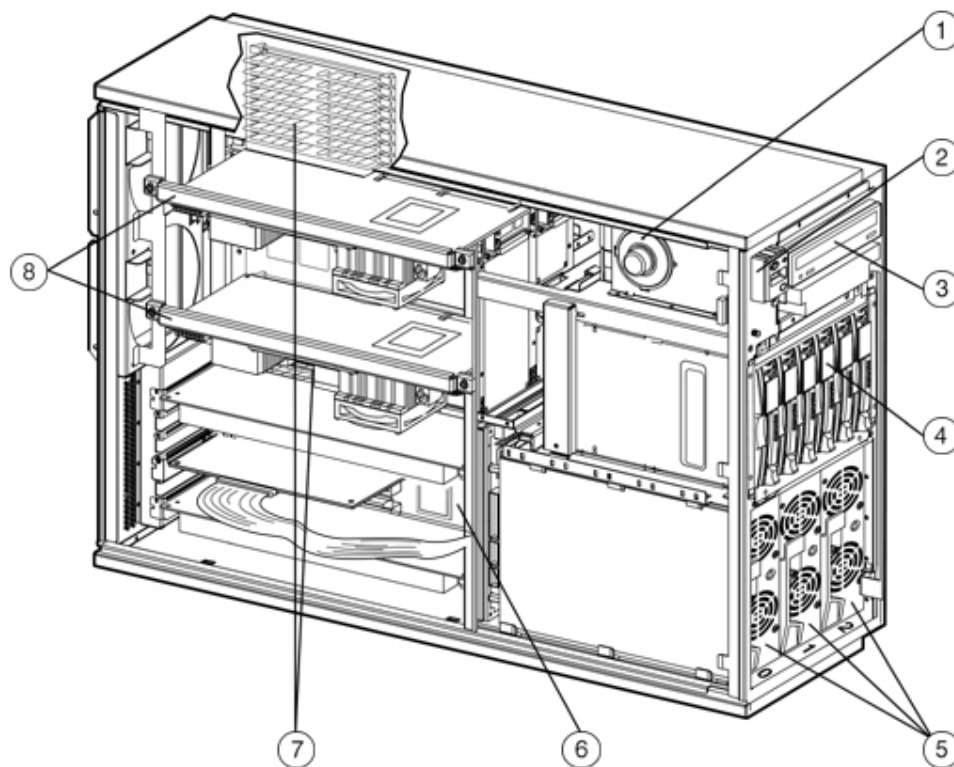


Overview



- 1. Speaker
- 2. Operator control panel
- 3. CD-R drive
- 4. Hard disk drives

- 5. Power supplies
- 6. PCI I/O slots
- 7. Memory
- 8. CPUs

At A Glance

AlphaServer/AlphaStation DS25 Systems include:

- Alpha 21264C 1000-MHz processor (dual processor capability) with 8-MB L2 Dual Data Rate cache
- ECC-protected memory bus and cache
- Minimum 512-MB, expandable to 16 GB using 512-MB, 1-GB, 2-GB, and 4-GB options
- Six 64-bit PCI I/O expansion slots
- Three PCI buses
 - Two 66-MHz PCI buses
 - One 33-MHz PCI bus
- Six hot swap hard disk drive bays
- Internal mass storage capacity up to 872 GB
- Integrated dual Ultra3 SCSI adapter
- Integrated dual Ethernet (10/100 and 10/100/1000) adapters
- Two 500-Watt hot pluggable power supplies with optional third for N+1 redundancy
- DVD-ROM/CD-R Combo drive
- Protected by HP Services, including a one-year on-site limited warranty, on-site with 5 x 9 next business day response

Standard Features

Processor	Alpha 21264C 1000-MHz processor	
Cache Memory	8-MB level 2 dual data rate cache per processor	
Upgradability	System upgradeable to dual processing	
Memory	Minimum	512-MB
	Maximum	16 GB
Network Controller	Integrated dual Ethernet adapters (one 10/100 and one 10/100/1000)	
Expansion	PCI I/O slots	6 total slots - Slots 1-4 run @ 64-bit/66 MHz - Slots 5 and 6 run @ 64-bit/33 MHz
Storage Controller	Integrated dual Ultra3 SCSI adapter	
Storage	CD-R	IDE DVD-ROM/CD-R Combo Drive
	Internal Hard Drives	Choice of 36.4-GB, 72.8-GB, 146-GB, or 300-GB drives
	Maximum Internal Storage	872 GB
Interfaces	Parallel	1
	Serial	2
	Pointing Device (Mouse)	1
	Keyboard	1
	SCSI knockouts on rear of chassis	2 SCSI knockouts, 1 used by one channel on onboard Adaptec
	Ethernet	2 (10/100 and 10/100/1000)
Form Factor	Rackmount or Tower	
Manageability	Insight Manager	
Power Supply	Two 500-Watt hot plug power supplies, standard; optional third N+1 for redundancy hot-plug redundant power supply support; hot-plug fan support	

Standard Features

OS Support

AlphaServer DS25 Tru64 UNIX systems include pre-installed software, Base license, Unlimited User license, Server Extension license, Internet Express, and Secure Web Server
AlphaStation DS25 Tru64 UNIX systems include pre-installed software, 2-user Base license.
AlphaServer DS25 OpenVMS systems include pre-installed software, Base license with System Manager license and Enterprise Integration Server License Package for OpenVMS
AlphaStation DS25 OpenVMS systems include pre-installed software, Base license, Concurrent Use 1-user license, NAS 150 Client license
Minimum OS support: Tru64 UNIX V5.1A NHD5, OpenVMS V7.3-1

Service and Support

Protected by HP Services including a one-year on-site hardware warranty with next business day response. Training, consulting, network integration, software support, comprehensive system maintenance and guaranteed uptime services are also available for customers requiring higher levels of service and support

Systems

PCI Configuration Guidelines

- Modules designed for 5.0V signaling and 33-MHz bus speed can only operate in 5.0V/33-MHz slots (slots 5 and 6).
- A maximum of two 5V modules can be installed in the system.
- Modules designed for 3.3 V signaling and 66-MHz bus speed can only operate in 66-MHz slots (slots 1, 2, 3, 4).
- Universal PCI modules can operate in all slots (3.3V and 5.0V).
- Universal PCI modules can operate at a maximum bus speed of 33 MHz or 66 MHz.
- Universal PCI modules operating at 33 MHz placed in a 66-MHz slot will reduce the entire hose to operate at 33 MHz.
- Universal PCI modules capable of operating at 66 MHz when placed in a 33-MHz slot will operate at 33 MHz.

PCI Module Descriptions:

PCI modules listed in this document as 33 MHz or 66 MHz refers to the module's maximum PCI bus speed.

- Modules that can only operate at 5V are designated as 5V – 33-MHz modules.
- Universal PCI modules are designated as 3.3/5V and can be installed into 33-MHz or 66-MHz slots.

The AlphaServer DS25 provides three PCI buses (hoses) that drive the six slots. A fourth hose drives the on-board Gbit Ethernet and dual channel Ultra3 SCSI adapter.

- Hose 0 – 33 MHz driving slots 5 and 6
- Hose 3 – 66 MHz driving slots 3 and 4
- Hose 1 – 66 MHz driving slots 1 and 2

The DS25 PCI bus and slot specifications follow:

PCI Slot	PCI Bus Speed	Signal Voltage	PCI Hose Number
1	66 MHz	3.3V	1
2	66 MHz	3.3V	1
3	66 MHz	3.3V	3
4	66 MHz	3.3V	3
5	33 MHz	5.0V	0
6	33 MHz	5.0V	0

Step 1 – Select system

AlphaServer/AlphaStation DS25 systems require the **mandatory** selection of the following items:

- System memory (Step 2a)
- Pedestal/tower or rackmount bezel kit (Step 2b)
- Disk drive cage (Step 2c)
- System disk drive (Step 2d)
- Two power cords (Step 2e)
- Order country-specific keyboard and mouse only if required. (Step 14)
- Software media and documentation for first system onsite. (Step 16)

NOTES: DS25 minimum OS support - Tru64 UNIX V5.1A NHD5, OpenVMS V7.3-1.

Only 2-5-2 part numbers are factory integrated.

Systems

AlphaServer DS25 Systems		
OS	CPU	Order Number
Tru64 UNIX	1000 MHz	DA-57AAB-AA
OpenVMS	1000 MHz	DY-57AAB-AA
AlphaStation DS25 Systems		
Tru64 UNIX	1000 MHz	DA-57AAB-AW
OpenVMS	1000 MHz	DY-57AAB-AW

Step 2 – Select Mandatory Options

Step 2a – Memory – Mandatory

- System does not include memory; selection of one memory option for each system is mandatory. Up to three additional memory options can be added for a total of 16 GB. (In earlier (D*-57AAA-**) models, configurations with more than 8 GB require three power supplies; N+1 functionality is not supported in configurations with over 8 GB.)

512-MB memory option (4 x 128-MB DIMMs)	3X-MS350-CA
1-GB memory option (4 x 256-MB DIMMs)	3X-MS350-DA
2-GB memory option (4 x 512-MB DIMMs)	3X-MS350-EA
4-GB memory option (4 x 1-GB DIMMs)	3X-MS350-FA

Step 2b – Bezel Kits – Mandatory

- Pedestal/Tower kit or Rackmount kit is mandatory for each system

Pedestal/Tower bezel kit	3X-BA57P-PA
Rackmount bezel kit (M-Series Cabinets)	3X-BA57R-RA
Rackmount bezel kit for 10000 Series Cabinets	3X-BA57R-RC

Step 2c – Disk Drive Cage – Mandatory

- Systems support one disk drive cage; disk drive cage supports six 1-inch hard disk drives or a combination of 1-inch disk drives and hot-plug Universal tape devices. Each tape device uses two slots in the BA610-6D.

6-bay disk drive cage	BA610-6D
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Systems

Step 2d – System Disk Drive (Supported in Disk Drive Cage) – Mandatory

• Selection of one disk drive is mandatory	
36.4-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A3849-AA
72.8-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A3839-AA
72.8-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A3851-AA
146-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A4945-AA
146-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A3841-AA
300-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A4952-AA

Step 2e – Power Cords – Mandatory

- Selection of two power cords is mandatory for all systems

Pedestal Power Cords	North America, 120V, 75-inches	BN26J-1K
	Australia, New Zealand, 2.5-meter	3R-A6023-AA
	Central Europe, 2.5-meter	BN19C-2E
	Denmark, 2.5-meter	BN19K-2E
	Egypt, India, South Africa, 2.5-meter	BN19S-2E
	Israel, 2.5-meter	3R-6883-AA
	Italy, 2.5-meter	BN19M-2E
	Japan, 2.5-meter	3X-BN46F-02
	Switzerland, 2.5-meter	BN19E-2E
	UK, Ireland, 2.5-meter	BN19A-2E
	Republic of China	BN19H-2E
Rackmount Power Cords	All Countries	BN35S-4E

Options

Step 3 – Additional CPU Modules – Optional

- One 68/1000-MHz CPU included, one additional CPU supported

SMP upgrade includes one 68/1000-MHz CPU with 8-MB cache and Tru64 UNIX SMP license	3X-KN410-CB
SMP upgrade includes one 68/1000-MHz CPU with 8-MB cache and OpenVMS SMP license	3X-KN410-CC

Step 4 – Additional Power Supplies – Optional

- Two 500-watt power supplies included with system; optional third power supply provides N+1 redundancy (power cord not included, select power cord from Step 2e). Earlier (D*-57AAA-**) models with 375-watt power supplies require three power supplies when configured with greater than 8 GB of memory. N+1 functionality is not supported in earlier models in configurations with over 8 GB.

DS25 500-watt redundant power supply	3X-H7911-AA
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Step 5 – Internal Tape Storage – Optional

- BA610-6D drive cage drives connected to integrated Ultra3 SCSI adapter supports LVD Universal tape. Each device uses two slots.

DAT 20/40-GB hot-plug LVD tape drive, carbon black; uses two slots in BA610-6D or 43xxx shelves (Q1546A) (cannot be sold in Europe)	3R-A4745-AA
DAT 36/72-GB hot-plug LVD tape drive, carbon black; uses two slots in BA610-6D or 43xxx shelves (Q1529A) (cannot be sold in Europe)	3R-A4547-AA

Step 6 – External Storage – Optional

StorageWorks Model 4314R and Model 4354R Universal Drive Shelves

- StorageWorks Model 4314R, 4314T, and 4354R Ultra3 SCSI (LVD) single-bus and split-bus Universal drive shelves; refer to StorageWorks Enclosure 4300 Family QuickSpecs when configuring shelves. When selecting a DS-SL13R-Bx split-bus shelf, two SCSI channels are required. BN38C-xx cable is required when connecting to embedded Ultra3 SCSI adapter. Note that the depth of a DS-SL13R-xx shelf does not allow front and rear mounting.

StorageWorks Model 4314R Ultra3 SCSI (LVD) single-bus Universal drive rackmount shelf, includes one power supply, U.S./International	DS-SL13R-AA
StorageWorks Model 4314R Ultra3 SCSI (LVD) single-bus Universal drive rackmount shelf, includes one power supply, Japan	DS-SL13R-AJ
StorageWorks Model 4354R Ultra3 SCSI (LVD) split-bus Universal drive rackmount shelf, includes two redundant power supplies, U.S./International	DS-SL13R-BA
StorageWorks Model 4354R Ultra3 SCSI (LVD) split-bus Universal drive rackmount shelf, includes two redundant power supplies, Japan	DS-SL13R-BJ

StorageWorks Modular Storage Array 30 (MSA30) Universal Drive Shelves

Options

- See Step 9 for rack configurations with M-Series and Series 10000 cabinets
- StorageWorks Model 4414R and 4454R Ultra320 single-bus and split-bus Universal drive shelves; refer to StorageWorks Modular Storage Array 30 Family QuickSpecs when configuring shelves. When selecting a 3R-A4076-AA split-bus shelf, two SCSI channels are required from selected storage adapters. BN38C-05 cable is required per channel if the connection is not VHDCI/VHDCI.
- MSA30 shelves are not currently supported in SCSI cluster configurations
- For OpenVMS 7.3-2, DEC-AXPVMS-VMS732_FIBRE_SCSI-V0100-4.PCSI is required to support dual-port I/O module (287483-B21) and/or the MSA30DB dual bus enclosure (3R-A4076-AA) in an OpenVMS cluster environment
- Hardware to mount into a Series 10000 cabinet is included. When mounting into an M-Series cabinet a rail kit (3R-A5281-AA/313877-B21) must be ordered separately

StorageWorks Modular Smart Array SW4414R Single Bus Ultra320 Rackmountable SCSI disk drive, 4-node Storage Enclosure (302969-B21). Includes one 12-foot VHDCI/VHDCI SCSI cable and two IEC-C13 power cords. See Supported Options List for configuration details --

http://h18002.www1.hp.com/alphaserver/options/ases45/ases45_options.html

StorageWorks Modular Smart Array SW4454R Dual Bus Ultra320 Rackmountable SCSI disk drive, 4-node Storage Enclosure (302970-B21). Includes two 12-foot VHDCI/VHDCI SCSI cables and two IEC-C13 power cords. See Supported Options List for configuration details --

http://h18002.www1.hp.com/alphaserver/options/ases45/ases45_options.html

M-series Rack Rail Kit Option 3R-A5281-AA
313877-B21

NOTE: The 3R-A4075-AA and 3R-A4076-AA enclosures are not supported in a shared-SCSI cluster using the 3X-KZPEA-DB adapter.

Step 7 – Storage Devices – Optional

Disk Drives (Supported in Model 4314R and Model 4354R Universal Drive Shelves)	36.4-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A3849-AA
	72.8-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A3839-AA
	72.8-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A3851-AA
	146-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A3841-AA
	146-GB Ultra320 SCSI 15,000 rpm 1-inch Universal disk drive	3R-A4945-AA
	300-GB Ultra320 SCSI 10,000 rpm 1-inch Universal disk drive	3R-A4952-AA

UltraSCSI Configuration Rules

- UltraSCSI configurations require UltraSCSI components (controllers, adapters, shelves, disks, and cables)
- UltraSCSI adapters and RAID controllers support UltraSCSI disks at UltraSCSI speeds in UltraSCSI shelves
- Mixing faster SCSI devices with slower SCSI devices will slow that entire SCSI bus to the slower speed.

Tape Drives

- Tabletop tape drives require LVD host bus adapter and country-specific power cord
- Tape media may not be included, for more information see <http://www.compaq.com/storage/productindextape.html>

Options

DAT Tape Drives	DAT 40-GB LVD tape drive, tabletop, with North America power cord	C5687D
	DAT 72-GB LVD tape drive, tabletop, with North America power cord	Q1523B
DAT Autoloaders	DAT 20/40-GB autoloader, external	AE313A
DLT/SDLT Tabletop Tape Drives	SDLT 600-GB external tape drive; NA	A7519B
	SDLT 600-GB external tape drive, WW	A7520B
	VS160 HH DLT 80/160GB external tape drive, NA	A7570B
	VS160 HH DLT 80/160GB external tape drive, WW	A7571B
3U Rackmount Tape Drive Enclosure	3U LVD Rackmount Tape Drive Enclosure for use in H9Axx M-Series Cabinets, 0 drives, carbon black	274338-B21
	Rackmount Kit for H9Axx M-Series Cabinets, carbon black - required for mounting 3U Rackmount Tape Drive Enclosure in M-Series cabinet	3R-A3804-AA
NOTE: The 3U Rackmount Tape Enclosure supports up to four internal half-height removable devices, or up to two full-height devices; select up to four DAT devices or two DLT/SDLT devices with 3U Rackmount Tape Enclosure (274338-B21) or select one of the preconfigured configurations listed below.		
MSA1000 Modular SAN Array	MSA1000 StorageWorks Modular SAN Array. For configuration details see http://h18002.www1.hp.com/alphaserver/products/storage/index.html .	201723-B22
	NOTE: Requires M-Series Rack Kit.	313877-B21
	M-series Rack Kit	3R-A5281-AA

Step 8 – Storage Adapters/Controllers

NOTE: Refer to the following chart when configuring adapters, shelves, and disks.

DS25 Configuration Chart for Storage Adapters

Options

Adapter		Shelf	Disk Drive	Tru64 UNIX	OpenVMS
3X-KZPCA-AA		DS-SL13R-xx BA610-6D	3R-A0xxx-AA 1-inch Universal 3R-A1xxx-AA 1-inch Universal 3R-A3xxx-AA 1-inch Universal	V5.1A	V7.3-1
3.3/5V	33 MHz				
3X-KZPEA-DB		DS-SL13R-xx BA610-6D	3R-A0xxx-AA 1-inch Universal 3R-A1xxx-AA 1-inch Universal 3R-A3xxx-AA 1-inch Universal	V5.1A	V7.3-1
3.3/5V	66 MHz				
RAID Controllers					
3X-KZPDC-BE/DF					
3.3/5V	66 MHz	BA610-6D DS-SL13R-xx	3R-A0xxx-AA 1-inch Universal 3R-A1xxx-AA 1-inch Universal 3R-A3xxx-AA 1-inch Universal	V5.1A	V7.3-1

	Maximum # Supported		
	Tru64 UNIX	OpenVMS	
PCI-X 64-bit 144-MHz 2-GB StorageWorks Fibre Channel Host Bus Adapter - FCA2684 - single channel NOTE: For configuration details refer to the Supported Options List at http://h18002.www1.hp.com/alphaserver/options/asds25/asds25_options.html The following pointer also provides additional information regarding this FCA: http://h18006.www1.hp.com/products/storageworks/fca2684/index.html	4	4	DS-A5132-AA
PCI-X 64-bit 144-MHz 2-GB StorageWorks Fibre Channel Host Bus Adapter - FCA2684 - dual channel NOTE: For configuration details refer to the Supported Options List at http://h18002.www1.hp.com/alphaserver/options/asds25/asds25_options.html The following pointer also provides additional information regarding this FCA: http://h18006.www1.hp.com/products/storageworks/fca2684/index.html	2	2	DS-A5134-AA
Fibre Channel cable (BNGBX-xx) xx=02, 05, 15, 30, 50 meters x=1, 2, 3, 4, 5			234457-B2x
PCI 2-port Ultra3 SCSI (LVD2) adapter, 64-bit/66 MHz dual-channel (uses one PCI slot); includes external 68-pin VHDCI connector; HSZxx RAID controllers not supported.	4	4	3X-KZPEA-DB
PCI 1-port Ultra2 SCSI (LVD) adapter, 32-bit, single-channel (uses one PCI slot); includes external 68-pin HD connector; requires BN38C-xx cable to connect adapter to Ultra2 SCSI shelf; HSZxx RAID controllers not supported.	4	4	3X-KZPCA-AA
68-pin HD male-to-VHDCI male UltraSCSI cable; xx = 02, 03, 05, 10, 20, 25 meter			BN38C-xx

Options

PCI 1-port UltraSCSI differential adapter (uses one PCI slot); includes external 68-pin HD connector, requires BN38C-xx cable (2 to 25 meter) to connect adapter to differential UltraSCSI shelf or RAID controller	4	4	3X-KZPBA-CC
68-pin HD male-to-VHDCI male UltraSCSI cable; xx = 02, 03, 05, 10, 20, 25 meter			BN38C-xx
PCI 2-port PCI to Ultra3, 64-bit, 66 MHz, LVD backplane RAID controller with 128-MB cache (uses one PCI slot); requires connection to DS-SL13R-xx shelves or BA610-6D card cage. NOTE: No host-based volume shadowing or shared bus support with OpenVMS.	4	4	3X-KZPDC-BE
PCI 4-port PCI to Ultra3, 64-bit, 66 MHz, LVD backplane RAID controller with 256-MB cache (uses one PCI slot); requires connection to DS-SL13R-xx shelves or BA610-6D card cage. NOTE: No host-based volume shadowing or shared bus support with OpenVMS.	4	4	3X-KZPDC-DF
U320 LVD SCSI Backplane Raid Controller, 64 bit, 2 Channel	-	4	3X-KZPEC-BF
U320 LVD SCSI Backplane Raid Controller, 64 bit, 4 Channel	-	4	3X-KZPEC-DG

Step 9 – M-series Cabinets or Rack 10000 Series

Step 9a – M-Series Cabinet – Optional

M-series enclosures require selection of the following items:

- H9A10 or H9A15 cabinet
- Rack kit for each system
- H9A10 or H9A15 rear cabinet extender
- Second PDU required with four or more systems in one cabinet
- Cabinet front door based on cabinet height
- Factory integration
- Ballast kit if two or less systems are ordered for the H9A15 cabinet
- Two power cords for each system

NOTE: For more information on M-Series Cabinet Enclosures, see <http://www.compaq.com/alphaserver/products/m-series/specs.html>

Cabinet Configuration Chart for AlphaServer DS25 (5U) with DS-SL13R (3U) StorageWorks Shelves

Options

Cabinet	Rack Kit	Cabinet Height/Space	Systems	DS-SL13R Shelves	Extra PDU Required	Ballast Kit
H9A10-ME/MF	3X-BA57R-RA	56-inches/33U	1	8	3X-H7609-EB/DB	-
			2	7	3X-H7609-EB/DB	-
			3	5	3X-H7609-EB/DB	-
			4	4	3X-H7609-EB/DB	-
			5	2	3X-H7609-EB/DB	-
			6	0	3X-H7609-EB/DB	-
H9A15-ME/MF	3X-BA57R-RA	68.25-inches/40U	1	8	3X-H7609-EB/DB	1
			2	7	3X-H7609-EB/DB	1
			3	7	3X-H7609-EB/DB	-
			4	6	3X-H7609-EB/DB	-
			5	4	3X-H7609-EB/DB	-
			6	2	3X-H7609-EB/DB	-

NOTE: H9A1x-ME includes one 3X-H7609-EB PDU; H9A1x-MF includes one 3X-H7609-DB PDU -- Order additional PDUs if more are required. See ordering information on following page.

M-series Cabinets	67-inch carbon black cabinet with 56-inch or 33U of usable vertical space, 200 to 240V dual-16A controller, 16 IEC C13 outlets, two input power plug NEMA L620P, Americas, Asia Pacific; includes rear door.	H9A10-ME
	67-inch carbon black cabinet with 56-inch or 33U of usable vertical space, 240V dual-16A controller, 16 IEC C13 outlets, two input power plug IEC 309, 20A, Europe; includes rear door.	H9A10-MF
	79-inch carbon black cabinet with 68.25-inch or 40U of usable vertical space, 200 to 240V dual-16A controller, 16 IEC C13 outlets, two input power plug NEMA L620P, Americas, Asia Pacific; includes rear door.	H9A15-ME
	79-inch carbon black cabinet with 68.25-inch or 40U of usable vertical space, 240V dual-16A controller, 16 IEC C13 outlets, two input power plug IEC 309, 20A, Europe; includes rear door.	H9A15-MF

Rear Cabinet Extender - Requires selection of one cabinet extender for each H9A10 or H9A15 cabinet	Rear cabinet extender, carbon black, for H9A10-ME/MF cabinets	H9C10-ZE
	Rear cabinet extender, carbon black, for H9A15-ME/MF cabinets	H9C15-ZE

Cabinet Front Door - Requires selection of door based on cabinet height	Front door for H9A10-ME/MF cabinet enclosure	3X-H9C10-RF
	Front door for H9A15-ME/MF cabinet enclosure	3X-H9C15-RF

Factory Integration - Required	Factory Integration of systems and storage devices assembled and configured in cabinet enclosure in predefined locations	YS-ASCAA-AA
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Ballast Kit - Required only if one system is ordered for the H9A15 cabinet

Options

- Ballast is added to a cabinet at particular locations for specific configurations to meet safety regulations for installation, operation, and service; see Cabinet Configuration Chart.

Two 35-40 lb steel plates

H9C10-MC

Power Distribution Unit (PDU) One PDU included with cabinet (see Cabinet Configuration Chart)	Single Phase, Double Power Controller, 16 outlet North America/Japan 240V	3X-H7609-EB
	Single Phase, Double Power Controller, 16 outlet, Europe 240V	3X-H7609-DB

Rackmount Power Cords - Rackmount power cord Two required for each system, three if optional FR-H7910-AA power supply is installed		BN35S-4E
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Shelves Supported in M-series Cabinets - Optional	StorageWorks Model 4314R Ultra3 SCSI (LVD) single-bus Universal drive rackmount shelf, includes one power supply, U.S. / International	DS-SL13R-AA
	StorageWorks Model 4314R Ultra3 SCSI (LVD) single-bus Universal drive rackmount shelf, includes one power supply, Japan	DS-SL13R-AJ
	StorageWorks Model 4354R Ultra3 SCSI (LVD) split-bus Universal drive rackmount shelf, includes two redundant power supplies, U.S. / International	DS-SL13R-BA
	StorageWorks Model 4354R Ultra3 SCSI (LVD) split-bus Universal drive rackmount shelf, includes two redundant power supplies, Japan	DS-SL13R-BJ
	StorageWorks Modular Smart Array SW4414R Single Bus Ultra320 rackmountable SCSI disk drive, 4-node Storage Enclosure (302969-B21). Includes one 12-foot VHDCI/VHDCI SCSI cable and two IEC-C13 power cords. See Supported Options List for configuration details -- http://h18002.www1.hp.com/alphaserver/options/ases45/ases45_options.html	3R-A4075-AA
	StorageWorks Modular Smart Array SW4454R Dual Bus Ultra320 rackmountable SCSI disk drive, 4-node Storage Enclosure (302970-B21). Includes two 12-foot VHDCI/VHDCI SCSI cables and two IEC-C13 power cords. See Supported Options List for configuration details -- http://h18002.www1.hp.com/alphaserver/options/ases45/ases45_options.html	3R-A4076-AA
	M-Series Rail kit (required when mounting MSA30 enclosures (3R-A407x-AA) into an M-Series cabinet	3R-A5281-AA 313877-B21
	NOTE: The 3R-A4075-AA and 3R-A4076-AA enclosures are not supported in a shared-SCSI cluster using the 3X-KZPEA-DB adapter.	

Options

Step 9b – Rack 10000 G2 Series – Optional

The HP Rack 10000 Series were designed to the 19-inch RETMA standard. The Racks accommodate all HP equipment (ProLiant, Alpha Systems, StorageWorks, UPS, and PDUs) in addition to select third-party equipment.

See **HP Rack 10000 G2 Series QuickSpecs** for details:

http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.HTML

Configuration Guidelines

1. All DS/ES Base Systems require a rack kit to mount systems in a 10000 G2 Series Rack (see below).
2. All Base Systems include all required internal IEC/IEC power cords.

10000 G2 Series Rack	10000 G2 Series 42U Rack - mandatory selection of three-phase or two single-phase Power Distribution Units required	AF004A
Rack Kit – Mandatory for 10000 G2 Series Rack	Order one for each DS25 System for mounting in 10000 G2 Series Rack	3X-BA57R-RC
Side Panel Kit – Mandatory Choice of Side Panel Kit or Baying Kit for 10000 G2 Series Rack	Order one per 10000 G2 Series Rack	AF054A
Baying Kit – Mandatory Choice of Side Panel Kit or Baying Kit for 10000 G2 Series Rack	Used to join two or more Series 10000 G2 Racks	248931-B21
Power Distribution Units – Mandatory for 10000 G2 Series Rack		
Single-phase PDU	Single-phase PDU for North America/Japan 200-240V 20A input plug NEMA L620P; 16 outlets	3X-H7609-EB
	Single-phase PDU for International, 240V 20A input plug IEC309, 16 outlets	3X-H7609-DB
Shelves Supported in Series 10000 Racks – Optional	StorageWorks Model 4314R Ultra3 SCSI (LVD) single-bus Universal drive rackmount shelf, includes one power supply, U.S./International	DS-SL13R-AA
	StorageWorks Model 4314R Ultra3 SCSI (LVD) single-bus Universal drive rackmount shelf, includes one power supply, Japan	DS-SL13R-AJ
	StorageWorks Model 4354R Ultra3 SCSI (LVD) split-bus Universal drive rackmount shelf, includes two redundant power supplies, U.S./International	DS-SL13R-BA
	StorageWorks Model 4354R Ultra3 SCSI (LVD) split-bus Universal drive rackmount shelf, includes two redundant power supplies, Japan	DS-SL13R-BJ
	StorageWorks Modular Smart Array SW4414R Single Bus Ultra320 rackmountable SCSI disk drive, 4-node Storage Enclosure (302969-B21). Includes one 12-foot VHDCI/VHDCI SCSI cable and two IEC-C13 power cords. See Supported Options List for configuration details -- http://h18002.www1.hp.com/alphaserver/options/ases45/ases45_options.html	3R-A4075-AA
	StorageWorks Modular Smart Array SW4454R Dual Bus Ultra320 rackmountable SCSI disk drive, 4-node Storage Enclosure (302970-B21). Includes two 12-foot VHDCI/VHDCI SCSI cables and two IEC-C13 power cords. See Supported Options List for configuration details -- http://h18002.www1.hp.com/alphaserver/options/ases45/ases45_options.html	3R-A4076-AA

Options

NOTE: 3R-A4075-AA and 3R-A4076-AA are not supported in a shared-SCSI cluster using the 3X-KZPEA-DB.

Step 9c – KVM (Keyboard, Video, Mouse) Switch – Optional

KVM (Keyboard, Video, Mouse) Switch – Optional	The HP Server Console Switch 1 x 8 (8-port) is supported on Alpha Systems using PS/2 mouse and keyboard with VGA video – this includes support for the PS/2 interface adapter, part number 262588-B21, required for operation. The switch is supported on systems running Tru64 UNIX operating system –minimum version V5.1A and the OpenVMS systems - minimum version v7.3-2. The KVM is 1U high and can be installed in the M-Series cabinet or Series 10000 rack. Supports up to eight servers.	
	HP Server 1 x 8-port KVM Console Switch	336044-B21
CAT5e Cables	3 foot (1m) – 4 pack	263474-B21
	6 foot (2m) – 8 pack	263474-B22
	12 foot (4m) – 8 pack	263474-B23
	20 foot (6m) – 4 pack	263474-B24
	40 foot (12m) – 1 pack	263474-B25
Interface Adapters	PS/2 Interface Adapter – 1 pack	262588-B21
	PS/2 Interface Adapter – 8 pack	262587-B21

NOTE: Supported graphics cards - ELSA GLoria Synergy (SN-PBXGK-BB), 3DLabs Oxygen VX1 (SN-PBXGF-AB), and ATI RADEON 7500 (3X-PBXGG-AA)

For more information, refer to the Release Notes at:

http://h18002.www1.hp.com/alphaserver/download/console_switch_rn.pdf

http://h18002.www1.hp.com/alphaserver/download/html/console_switch_rn.html

Step 10 – Graphics Adapters – Optional

- RAID Configuration Utility is accessible via console port for Tru64 UNIX and OpenVMS systems; optional graphics capability available
- Select graphics adapter, monitor, and country-specific keyboard if required
- Media kit (includes RADEON 7500 card) for Tru64 UNIX (QA-62RAA-H8) and for OpenVMS (QA-62PAA-H8)

Options

	Maximum # Supported		
	Tru64 UNIX	OpenVMS	
ATI RADEON 7500 64-MB 2D/3D graphics accelerator NOTE: Only RADEON 7500 PCI cards can be used in a multi-card environment. For multi-head support, refer to Read Me First document/Release Notes.	4 – 2D only 1 – 3D Dual head on first card only (unique video using DVI port for 2D or 3D) V5.1B NHD-7	4 – 2D/3D Dual head on first card only (cloned video using DVI port for 2D or 3D) V7.3-1 with Tima Kit: DEC-AXPVMS-VMS731 GRAPHICS-V0300-4.PCSI	3X-PBXGG-AA
Tru64 UNIX Open 3D license for RADEON 7500 (required for 3D functionality)			QL-6ZRA9-AA
OpenVMS Open 3D license for RADEON 7500 (required for 3D functionality)			QL-0ADA9-AA
Additional Tru64 UNIX media kit for RADEON 7500 (initial kit ships with RADEON 7500 card)			QA-6ZRRA-H8
Additional OpenVMS media kit for RADEON 7500 (initial kit ships with RADEON 7500 card)			QA-6ZPAA-H8
PCI 32-bit, 33-MHz multi-function (single-port 10/100 Ethernet UTP/RJ45, Ultra2 SCSI LVD, and 2D graphics) adapter	1	1	3X-DEPVZ-AA

Step 11 – Networks and Communications – Optional

	Maximum # Supported		
	Tru64 UNIX	OpenVMS	
PCI to dual-port 10/100 UTP Fast Ethernet adapter	2	2	3X-DE602-BR
Cable for 10BaseT Twisted Pair connection			BN25G-xx
Shielded cable for 10BaseT Twisted Pair connection			BN25M-xx
Dual-port 10/100 UTP daughter card for 3X-DE602-BR (3X-DE602-BR is a prerequisite)	2	2	3X-DE602-TR
FE FX daughter card for 3X-DE602-BR (3X-DE602-BR is a prerequisite)	2	2	3X-DE602-FR
PCI-X/PCI single-port 1000 Mbps (MMF with duplex-SC) Gigabit Ethernet; Tru64 UNIX V5.1B/TruCluster V5.1B supports up to eight nodes and requires: http://ftp1.support.compaq.com/public/unix/v5.1b/t64v51bb1-c0003000-16672-e-20030130.README Tru64 UNIX V5.1A/TruCluster V5.1A supports up to eight nodes and requires: T64V51AAB21AS0004-20030206.tar NOTE: Use BN34A, BN34B, or equivalent with SC connectors.	4	4	3X-DEGXA-SR

Options

PCI-X/PCI single-port 10/100/1000 Mbps (Twisted-Pair Copper with RJ45) Gigabit Ethernet; Tru64 UNIX V5.1B/TruCluster V5.1B supports up to eight nodes and requires: http://ftp1.support.compaq.com/public/unix/v5.1b/t64v51bb1-c0003000-16672-e-20030130.README Tru64 UNIX V5.1A/TruCluster V5.1A supports up to eight nodes and requires: T64V51AAB21AS0004-20030206.tar NOTE: Use BN25G, BN26M, BN24Q, BN28Q twisted pair RJ45 cables.	4	4	3X-DEGXA-TR
r			

PCI (32-bit, 33-MHz) to 4-port Async Communications NIC with DB-25 octopus cable NOTE: The Tru64 UNIX driver (UNIX Tar File 4001180K.tar) is located at: http://support.digi.com/support/indexes/tru64-xr.html The OpenVMS driver kit (Filename 4001778L.bin) can be located at http://support.digi.com/support/drivers/vms/index-async.html	4	4	PBXDA-BA
PCI (32-bit, 33-MHz) to 8-port Async Communications NIC with DB-25 octopus cables NOTE: The Tru64 UNIX driver (UNIX Tar File 4001180K.tar) is located at: http://support.digi.com/support/indexes/tru64-xr.html The OpenVMS driver kit (Filename 4001778L.bin) is located at http://support.digi.com/support/drivers/vms/index-async.html	4	4	PBXDA-BB
PCI 2-port intelligent synchronous controller; the WANDD Kit version for Tru64 UNIX is V3.2-1: http://ftp1.support.compaq.com/public/unix/v5.1a/wanosf/3.2/wanosf_v32-1.README	4	4	3X-PBXDD-AA
PCI 4-port intelligent synchronous controller; the WANDD Kit version for Tru64 UNIX is V3.2-1: http://ftp1.support.compaq.com/public/unix/v5.1a/wanosf/3.2/wanosf_v32-1.README	4	4	3X-PBXDD-AB

Step 12 – MEMORY CHANNEL – Optional

Tru64 UNIX Systems (V5.1A)

- Each system node in the cluster requires a TruCluster software license (QL-6BRAC-AA) or TruCluster Plus Software Package (QP-6R9AC-AA)

OpenVMS Systems

- OpenVMS V7.3-1 and OpenVMS Cluster license (QL-MUZAC-AA) are required

Options

Configuring Information

- Memory Channel adapters (CCMAB-BA) must be configured in 5-volt PCI slots.
- Up to two PCI-to-System Area Network adapters (CCMAB-BA) are supported in a single system.
- Two-node clusters can be configured by ordering a CCMAB-BA for each node and one BN39B-04 or BN39B-10 cable; cable connects directly to CCMAB-BA in each node.
- For a two-node cluster that will not need to be rebooted when adding additional members, order one CCMAB-BA adapter and one BN39B-04 or BN39B-10 cable for each node, and one CCMHB-AA hub for the cluster.
- For three- or four- node clusters, order one CCMAB-BA adapter and one BN39B-04 or BN39B-10 cable for each node, and one CCMHB-AA hub for the cluster. If two CCMAB-BAs are configured in each system, a second CCMHB-AA is required.
- CCMHB-AA includes four CCMLB-AA line cards and supports up to four nodes; expansion up to eight system nodes can be achieved by adding up to four CCMLB-AA line cards.
- If nodes must be separated by a distance longer than standard copper cables allow the CCMFB option converts the output of the standard CCMAB controller or CCMLB line card to single-mode fiber optic cable. The fiber optic connection may be up to 2,000 meters long between two CCMAB controllers connected in virtual hub mode, or 3,000 meters between a CCMAB controller and a CCMHB hub. (The connection from the CCMHB hub to a second system may also be 3,000 meters.) The CCMFB option requires a second PCI slot in the system from which it draws power only. It is normally connected to the corresponding CCMAB controller with the short BN39B-01 cable. The CCMFB is also used in the CCMHB hub where it occupies a slot normally used by the CCMLB line card, limiting expansion to four radial fiber optic connections.
- CCMHB-BA hub expansion box provides additional slots for up to eight fiber optic connections. Two standard length single-mode fiber optic cables are available (BN34R-10 and BN34R-31); however, users normally provide this fiber optic connection. Fiber optic connectivity is completely transparent to the systems using it and has no performance impact.

NOTE: When configuring with two Memory Channel Controllers (CCMAB-BA), all nodes in a Memory Channel cluster must have the window size jumper set to the same size, specifically 128

MEMORY CHANNEL Controller/ System Area Network Hub	PCI-to-System Area Network Controller, maximum two -- 5V/3.3V	CCMAB-BA
	System Area Network Hub with four line cards; includes BN19P-2E power cord for Canada, Japan, and U.S. - for other regions, order appropriate power cord from the following list:	CCMHB-AA
	Hub expansion box with no line cards	CCMHB-BA
	Expansion line card for CCMHB hub	CCMLB-AA
	1-meter cable for CCMAB and CCMHB	BN39B-01
	4-meter cable for CCMAB and CCMHB	BN39B-04
	10-meter cable for CCMAB and CCMHB	BN39B-10
	Copper-to-single mode fiber optic converter -- 5V/3.3V (clock not affected); maximum two per system.	CCMFB-BA

Options

MEMORY CHANNEL Power Cords	Australia, New Zealand (8121-0838)	3R-A6023-AA
	Central Europe	BN19C-2E
	Denmark (103541-481)	BN19K-2E
	Egypt, India (103541-AR1)	BN19S-2E
	Ireland, United Kingdom	BN19A-2E
	Israel	3R-A6883-AA
	Italy (103541-461)	BN19M-2E
	Switzerland (103541-511)	BN19E-2E

Step 13 – Monitors

- Graphics monitors other than those listed can be used if compatible with SVGA graphics ordered with system
- A video cable, 6-foot/1.8-meter length, is included with all variants of monitors
- Video extension cable required if monitor is located more than 1 meter from server
- Monitors will ship with, but not be integrated with systems.

CRT Monitors	V7600 17-inch (16-inch viewable image size) 0.24mm FST multi-frequency color monitor, 2-tone (carbon/silver), VGA to 1024 x 768 @85 Hz, MPRII/TCO 99/Energy Star Compliant, Northern Hemisphere with NA power cord, VGA cable	3R-A5853-AA
	Same as above, with Euro power cord	3R-A5854-AA
	Same as above, Taiwan, NA power cord	PF996AA#AB0
	Same as above, with PRC power cord, CCIB	3R-A5857-AA
	Same as above, Southern Hemisphere with Australia/New Zealand power cord	PF996AA#ABG
Flat Panel Monitors	L2065 20" (20.1" viewable image area) flat panel monitor 0.255mm pixel pitch, 1600 x 1200 @60 Hz, A + D, TCO 03, Energy Star compliant, 4 video input connectors, (VGA, DVI-I, composite video and s-video), NA power cord, VGA and DVI-I cables	3R-A6701-AA
	L2065 20" (20.1" viewable image area) flat panel monitor 0.255mm pixel pitch, 1600 x 1200 @60 Hz, A + D, TCO 03, Energy Star compliant, 4 video input connectors, (VGA, DVI-I, composite video and s-video), Euro power cord, VGA and DVI-I cables	3R-A6702-AA
	L1955, 19" (19" viewable image size) TFT flat panel monitor, 0.294mm pixel pitch, 1280 x 1024 @60Hz, multi-mode support, MPRII/TCO 03/Energy Star compliant, one VGA, one DVI-I input connector. NA power cord, VGA and DVI-D cables	PD974AA#ABA
	L1955, 19" (19" viewable image size) TFT flat panel monitor, 0.294mm pixel pitch, 1280 x 1024 @60Hz, multi-mode support, MPRII/TCO 03/Energy Star compliant, one VGA, one DVI-I input connector. Euro power cord, VGA and DVI-D cables	PH466A#ABB
	L1506, 15." (15" viewable image size) TFT flat panel monitor, 0.297 mm pixel pitch, 1024 x 768 @60 Hz, multi-mode support, MPRII/TCO99/Energy Star compliant, two video input connectors (one VGA and one DVI-I), NA power cord, VGA and DVI-I cables	3R-A6515-AA

Options

L1506, 15." (15" viewable image size) TFT flat panel monitor, 0.297 mm pixel pitch, 1024 x 768 @60 Hz, multi-mode support, MPRII/TCO99/Energy Star compliant, two video input connectors (one VGA and one DVI-I), Euro power cord, VGA and DVI-I cables 3R-A6516-AA

Flat Panel Monitor – Rack Mountable TFT7210R 17" (17" viewable image area) 1U rack-mount flat panel display, 0.264mm pixel pitch, 1280 x 1024 @60/75 Hz, high and low voltage power cords, worldwide 3R-A5187-AA

Monitor Power Cords

North American, 120 V, 75-inch	BN26J-1K
Australia, New Zealand, 2.5-meter	3R-A6023-AA
Central Europe, 2.5-meter	BN19C-2E
Denmark, 2.5-meter	BN19K-2E
Egypt, India, South Africa, 2.5-meter	BN19S-2E
Israel, 2.5-meter	3R-A6883-AA
Italy, 2.5-meter	BN19M-2E
Japan, 2.5-meter, Dentori approved	3X-BN46F-02
Switzerland, 2.5-meter	BN19E-2E
UK, Ireland, 2.5-meter	BN19A-2E

Step 14 – Keyboards, and Mouse – Optional

Keyboards – Optional

- Select a keyboard and mouse
- All keyboards listed may not be available in all geographies
- Select an opal OpenVMS keyboard for use with VT5xx text terminals.

Keyboard/Language	Opal	Carbon	
	OpenVMS	Tru64 UNIX	OpenVMS*
U.S. keyboard	LK465-A2	3R-A6586-AA	3X-LK464-A2
Arabic keyboard	-	3R-A6572-AA	-
Belgian keyboard	LK465-AB	3R-A6573-AA	3X-LK464-AB
BHCSY keyboard	-	3R-A6574-AA	-
Canadian/English keyboard	LK465-AQ	-	3X-LK464-AQ
Canadian/French keyboard	LK465-AC	3R-A6575-AA	3X-LK464-AC
Cyrillic keyboard (Russian)	LK465-BT	3R-A6576-AA	3X-LK464-BT
Czech keyboard	LK465-BV	3R-A6577-AA	3X-LK464-BV
Danish keyboard	LK465-AD	3R-A6578-AA	3X-LK464-AD
Dutch keyboard	LK465-AH	3R-A6579-AA	3X-LK464-AH
Finnish keyboard	LK465-AF	3R-A6580-AA	3X-LK464-AF
French keyboard	LK465-AP	3R-A6581-AA	3X-LK464-AP
German keyboard	LK465-AG	3R-A6582-AA	3X-LK464-AG

Options

Greek keyboard	LK465-BH	3R-A6583-AA	3X-LK464-BH
Hebrew keyboard	LK465-AT	3R-A6584-AA	3X-LK464-AT
Hungarian keyboard	LK465-BQ	3R-A6585-AA	3X-LK464-BQ
International keyboard	-	3R-A6586-AA	-
Italian keyboard	LK465-AI	3R-A6587-AA	3X-LK464-AI
Japanese keyboard	-	3R-A6588-AA	-
Korean keyboard	-	3R-A6589-AA	-
Latin-American keyboard	-	3R-A6590-AA	-
Norwegian keyboard	LK465-AN	3R-A6591-AA	3X-LK464-AN
Polish keyboard	LK465-BP	3R-A6592-AA	3X-LK464-BP
Portuguese keyboard	LK465-AV	3R-A6593-AA	3X-LK464-AV
Romanian keyboard	LK465-BL	-	3X-LK464-BL
Simplified Chinese keyboard	-	3R-A6594 -AA	-
Slovak keyboard	LK465-CZ	3R-A6595-AA	3X-LK464-CZ
Spanish keyboard	LK465-AS	3R-A6596-AA	3X-LK464-AS
Swedish keyboard	LK465-AM	3R-A6597-AA	3X-LK464-AM
Swiss/French keyboard	LK465-AK	3R-A6598-AA	3X-LK464-AK
Swiss/German keyboard	LK465-AL	-	3X-LK464-AL
Traditional Chinese keyboard	-	3R-A6599-AA	-
Thai keyboard	-	3R-A6600-AA	-
Turkish Q keyboard	LK465-BU	3R-A6601-AA	3X-LK464-BU
Turkish/F keyboard	LK465-BW	-	3X-LK464-BW
UK keyboard	-	3R-A6602-AA	3X-LK464-A2
Yugoslavian keyboard	LK465-BY	-	3X-LK464-BY

*OpenVMS keyboard (3X-LK464-xx) comes with PS/2 and USB connectors

Keyboard or Mouse Extension Cable	6-foot/1.8-meter keyboard or mouse extension cable; to extend both keyboard and mouse order two cables	3X-BC34A-06
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Mouse	3-button mouse – carbon	3X-PBQWS-PS
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Step 15 – Software – Required selection of media and documentation for first system on site

- Software Processor Code = E

Tru64 UNIX

- AlphaServer DS25 Tru64 UNIX systems include Unlimited User license, Server Extension license, Internet Express, and Secure Web Server
- AlphaStation DS25 Tru64 UNIX systems include Base 2-user license

Tru64 UNIX media and online documentation on CD-ROM

QA-6ADAA-H8

Tru64 UNIX full hard copy documentation

QA-6ADAA-GZ

Tru64 UNIX Unlimited User license

QL-MT7AE-AA

Internet Express for Tru64 UNIX

QB-3NCAA-SA

TruCluster Plus Software Package, licenses for TruCluster Server, Logical Storage Manager and AdvFS Utilities

QP-6R9AC-AA

Options

Advanced Server for Tru64 UNIX, 25 client concurrent use license	QL-5U29M-3D
Advanced Server for Tru64 UNIX, 50 client concurrent use license	QL-5U29M-3E
Advanced Server for Tru64 UNIX, 100 client concurrent use license	QL-5U29M-3F
Advanced Server for Tru64 UNIX, 250 client concurrent use license	QL-5U29M-3G
Advanced Server for Tru64 UNIX, 500 client concurrent use license	QL-5U29M-3H
Layered products media and documentation for Tru64 UNIX on CD-ROM	QA-054AA-H8
DECnet/OSI end-system license for Tru64 UNIX	QL-MTJAE-AA
DECnet/OSI extended function license for Tru64 UNIX	QL-MTKAE-AA

OpenVMS

- AlphaServer DS25 OpenVMS systems include Base license with System Manager license and Enterprise Integration Server Package for OpenVMS Revision V3.1
- AlphaStation DS25 OpenVMS systems include Base license, Concurrent Use 1-user license, NAS 150 Client license
- Enterprise Integration Package includes licenses for TCP/IP Services for OpenVMS, DECwindows Motif for OpenVMS Alpha, DECprint Supervisor for OpenVMS Open, DECnet-Plus for OpenVMS Alpha End System, Archive/Backup System for OpenVMS Management Tools, Archive/Backup Agent for Windows NT, Office Server for OpenVMS, PATHWORKS 32, PATHWORKS V6 for OpenVMS - Advanced Server, and Office Server Client Access License

OpenVMS media and online documentation on CD-ROM QA-MT1AA-H8

OpenVMS hard copy documentation QA-001AA-GZ

Layered products media and documentation for OpenVMS on CD-ROM QA-03XAA-H8

- OpenVMS Concurrent Use licenses provide the right to interactively use the operating system by the specified number of concurrent users on a designated OpenVMS system. OpenVMS Concurrent Use licenses can be moved from one system to another at user discretion and can be shared in a mixed OpenVMS VAX and OpenVMS Alpha cluster.
- OpenVMS Traditional Unlimited Use license is system specific and can only be used on one single system at a time. It cannot be shared between systems or in an OpenVMS VAX or OpenVMS Alpha Cluster.

Concurrent Use 1-user license QL-MT3AA-3B

Concurrent Use 2-user license QL-MT3AA-3C

Concurrent Use 4-user license QL-MT3AA-3D

Concurrent Use 8-user license QL-MT3AA-3E

Concurrent Use 16-user license QL-MT3AA-3F

Concurrent Use 32-user license QL-MT3AA-3G

Concurrent Use 64-user license QL-MT3AA-3H

Concurrent Use 128-user license QL-MT3AA-3J

Concurrent Use 256-user license QL-MT3AA-3K

OpenVMS Cluster license for Alpha systems QL-MUZAC-AA

OpenVMS Cluster Client license for Alpha systems QL-3MRAC-AA

OpenVMS Cluster Client to Full VMS Cluster Migration license QL-6J7AC-AA

Enterprise Integration Server for OpenVMS media and documentation QA-5LVAA-H8

DECnet extended function license for OpenVMS QL-MTGAE-AA

DECnet end-system to extended function upgrade license for OpenVMS QL-MTHAE-AA

OpenVMS Volume Shadowing license QL-2A1AE-AA

Options

Step 16 – Hardware and Software Support Services for Tru64 UNIX and OpenVMS

- Select one of the optional HP Care Pack Service Packages described below that best supports the customer's operational requirements for system availability.
-

HP Care Pack Services

- HP Care Pack Services are available for AlphaServer systems running Tru64 UNIX or OpenVMS operating systems. HP Care Pack Services are designed for customers who require support beyond that provided by the hardware product warranty with coverage for both Principal server systems and SSPs (Subsequent System Packages) - that meet a full range of customer support requirements.
-

Program Features – Principal Server/Station

HP Support Plus

- HP Support Plus offers combined hardware and software services in one package, providing support during standard HP office hours.
-

HP Support Plus 24

- HP Support Plus 24 offers combined hardware and software services in one package to help enhance the availability and performance of your IT infrastructure 24x7.
-

HP Proactive 24

- HP Proactive 24 (P24) is a combined hardware and software support solution designed to help you get more from your IT investment. P24 improves the effectiveness, performance, and availability of the technologies in your IT infrastructure.
-

HP Critical Service

- HP Critical Service (CS) is a comprehensive hardware and software support solution, designed for organizations running business critical applications. CS provides a combination of proactive and reactive services for mission critical environments with little or no tolerance for downtime.
-

Installation

- Pre-installation review
 - Unpacking of equipment
 - Assemble and test
 - Basic product usage info
 - No software installation added
-

Installation & Startup HP O/S

- Pre-installation review
 - Unpacking of equipment
 - Assemble and test
 - Basic product usage info
 - Install operating systems
 - Product configuration
 - Print & network access
 - Orientation
-

Options

HP Care Pack Services for AlphaServer/AlphaStation DS25 Systems (sold via Fusion Order Management System)				
	1-year Package ID#	Option ID#	3-year Package ID#	Option ID#
HP Support Plus	HA109A1	6HQ	HA109A3	6HQ
HP Support Plus 24	HA110A1	6HQ	HA110A3	6HQ
HP Proactive 24	HA111A1	6HQ	HA111A3	6HQ
HP Critical Service	HA112A1	6HQ	HA112A3	6HQ

NOTES:

- AlphaServer DS25 systems include one-year parts and labor warranty with 5x9, on-site Next Business Day response.
- HP Care Pack Services include support for new HP branded hardware options internal to the AlphaServer enclosure plus a monitor (17-inch or less excluding flat panel models).
- External storage devices/cabinets carry their own level of warranty and should be quoted separately for uplifted warranty services.
- In addition to the HP Care Pack Services shown above, other service packages are available for separate hardware and software support. For more information on Hardware and Software Upfront Services and other HP service options available for AlphaServers, please consult your Sales Account Manager, HP Services Principal, or visit: <http://www.hp.com/hps/>

Technical Specifications

Pedestal	Dimensions (H x W x D)	18.5 x 8.875 x 30.25 in (47 x 22.3 x 76.7 cm)		
	Shipping Dimensions	24 x 26.25 x 40 in (61 x 66 x 101.6 cm)		
	Weight	Typical Configuration	80 lb (36 kg)	
		Maximum Configuration	88 lb (40 kg)	
	Shipping Weight	Nominal	100 lb (45 kg)	
		Maximum	110 lb (50 kg)	
	Clearances	Operating	Service	
		Front	15 in (38.1 cm)	15 in (38.1 cm)
	Rear	6 in (15 cm)	29.5 in (75 cm)	
	Left Side	None	None	
	Right Side	None	None	
Rackmount	Dimensions (H x W x D)	8.69 x 17.5 x 29.187 in (22.0 x 44.5 x 70.5 cm) (5U)		
	Shipping Dimensions	24 x 26.25 x 40 in (61 x 66 x 101.6 cm)		
	Weight	When lifting	Nominal	80 lb (36 kg)
			Maximum	86 lb (39 kg)
		Total added to cabinet (brackets, slides, cables):	Nominal	84 lb (38 kg)
			Maximum	88 lb (40 kg)
	Shipping Weight	Nominal	100 lb (45 kg)	
		Maximum	110 lb (50 kg)	
	Clearances	Operating	Service	
		See specific cabinet requirements	Minimum 4 ft (121.9 cm), 28 in (71 cm) withdrawal on rails	
	Cabinet		H9A10 M-Series	H9A15 M-Series
Dimensions (H x W x D) (Depth includes rear door extender)		67 x 23.6 x 36.1 in (170 x 60 x 91.6 cm)	79 x 23.6 x 36.1 in (200 x 60 x 91.6 cm)	78.7 x 24 x 39.69 in (199.9 x 60.96 x 100.82 cm)
Shipping Dimensions		73 x 36 x 48 in (185.5 x 91.5 x 122 cm)	85 x 36 x 48 in (216 x 91.5 x 122 cm)	86.22 x 32 x 48 in (219 x 81.28 x 121.92 cm)
Weight		280 lb (126 kg)	313 lb (142 kg)	253 lb (114.84 kg)
Shipping Weight		354 lb (159.3 kg)	369 lb (167.4 kg)	284 lb (129 kg)
Loading Capacity		1,408 lb (640 kg) maximum	1,408 lb (640 kg) maximum	2,000 lb 909.1 kg maximum

Technical Specifications

	Non-operating	41° to 122° F (5° to 50° C)	
	Storage (60 days)	−40° to −151° F (−40 to −66° C)	
	Rate of change	20° F/hr (11° C/hr)	
	NOTE: Maximum operating temperature at sea level; reduce by 1.8° F (1° C) for each 600m (2,000 ft) above sea level.		
Humidity	Operating	20% to 90%, non-condensing	
	Non-operating	10% to 90%, non-condensing	
	Storage (60 days)	10% to 95%	
Maximum Wet Bulb Temperature	Operating	82° F (28° C)	
	Non-operating	90° F (32° C)	
	Storage (60 days)	115° F(46° C)	
Heat Dissipation	Nominal	Maximum	
Tower	550W, 1,878 BTU/hr	780W, 2,664 BTU/hr	
H9A10/H9A15 Cabinets	Configuration dependent		
Air Flow and Quality	Intake location	Front	
	Exhaust location	Rear Tower, Pedestal, Rack; Rear/top H9A10/H9A15	
	Particle size	N/A	
	Concentration	N/A	
Altitude (unpressurized)	Operating	10,000 ft (3,037m)	
	Non-operating	40,000 ft (12,192m)	
	NOTE: Higher altitudes are possible if maximum operating temperature is reduced (see Temperature); other restrictions may apply such as maximum permissible altitude for hard drives.		
Acoustics (Declared values per ISO 9296 and ISO 7779)			
Acoustics	LWAd3B	LnAm5dBA (bystander position)	
Idle	6.3	45	
Operating	6.4	46	
	NOTE: Current values for specific configurations are available from HP, note that 1 B = 10 dBA.		
Vibration	Operating	10 to 500 Hz .1 G peak	
Shock	Operating	10G 11ms half-sine (pedestal)	
		5G 11ms half-sine (rack)	
Electrical (Power supplies are universal, PFC, auto ranging, 100/240 VAC)			
Nominal Voltage (VAC)	100	120	200 to 240
Voltage Range (VAC) (temporary condition)	90 to 100	110 to 128	180-250
Power Source Phase	Single	Single	Single
Nominal Frequency (Hz)	50/60	50/60	50/60
Frequency Range (Hz)	49-63	49-63	49-63
RMS Current			
Pedestal and Rackmount			
Single power cord	6.3A	5.3A	3.0
Maximum VA	630	640	690
M-Series Cabinet (Configuration dependent)		120	220-240

Technical Specifications

Nominal voltage (VAC)	100		
Each power cord	24A	24A	16A
Power Cords			
Pedestal	1 (75 in (190 cm))	IEC 320 C13 to NEMA 5-15 (North America) or IEC 320 C13 to country-specific	
Rackmount	1 (14 ft 10 in (452 cm))	IEC 320 C13 to NEMA 5-15 (North America) or IEC 320 C13 to IEC 320 C14 (other countries)	
Cabinet	2 (10 ft 10 in (330 cm))	120V non-removable NEMA L5-30P or 200-240V non-removable IEC 309	
Regulatory	Agency Approvals	UL: Listed to UL1950 (3rd edition) CSA: Certified to CAN/CSA-C22.2 No. 950-M95 TUV: EN 60950/A11: 1997 VDE 0805 GS marked FCC: Part 15.B Class B CE: EN55022, EN50024, EN61000-3-2, EN61000-3-3 VCCI V-3/97.04 Class B ITE BSMI: CNS13438 C-Tick: AS/NZS 3548 (1995) AS/NZ 3260:1993 Australian/New Zealand Standard EN 60950/A11: 1997 European Norm IEC 950 (2nd edition, 4th amend)	
	Reviewed to		

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